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DISCLAIMER

This text has been compiled for TRAINING ONLY. It should not be used in place of official directives or other publications. The text information is current and according to the references listed. You should however, remember that **It is your responsibility** to keep up with the latest professional information available.

M16A2

References

a. ***COMDTINST M80002.C*** *Ordnance Manual*

b. ***FM 23-9*** *Field Manual M16A1 And M16A2 Rifle Marksmanship*

c. TM 9-1005-249-24&P *Technical Manual Organizational, Direct Support, And General Support Maintenance Manual Rifle, 5.56-MM, M16 and Rifle, 5.56-MM, M16A1*

d. TM9-1005-249-10 Operator's Manual M16A1 Rifle

Safety

NOTE: Safety is first and foremost when handling all weapons.

General

1. All weapons shall be treated with respect.
2. When handling weapons **Never** point a weapon toward anyone or accept a weapon with the muzzle pointed toward you. Keep weapon pointed in a safe direction at all times. Never point a weapon at anything you don't intend to shoot.
3. Accept only a cleared weapon.
4. Each time you receive or pick up a weapon ensure the weapon is clear by using the push/pull method.
5. Horseplay is unacceptable and will not be tolerated while handling a weapon.
6. Always be aware of your surroundings when handling weapons. Know what and who is around you.

Safety (Continued)

Weapon Safety Rules

These 4-weapon safety rules should be memorized by every one that handles weapon and should be recited verbatim. Training in the four safety rules must be repetitive to ensure automatic adherence when the individual is handling weapons.

1. Treat Every Weapon as if it were loaded, regardless of perceived or actual condition.
2. Keep weapon pointed in a safe direction at all times. Never point a weapon at anything you do not intend to shoot.
3. Keep your weapon on safe until aimed in on target and the decision to shoot has been made. (M9 PDW is the only exception to this rule).
4. Keep your finger outside the trigger guard, indexed along the receiver, until the decision to shoot has been made.

Clear Weapon

A clear M16A2 RIFLE is one with:

1. The selector lever is in the safe position. (Pointing forward.)
2. The bolt is locked to the rear.
3. No brass or rounds in the chamber and no magazine in the magazine well.

NOTE: This is the only way you will GIVE, RECEIVE or BENCH this weapon.

The push, pull method

To insure that a weapon is clear you should utilize the push/pull method.

a.) With the weapon pointed in a safe direction and level to the deck, **Push** the weapon away from your body. Inspect the chamber of the weapon to, ensure the chamber is clear and contains no brass or ammunition. You should not see any obstructions in the chamber.

NOTE: The safe direction may depend on the area. This may mean you push, pull at an angle into a clearing station. The point to remember is that the weapon is pushed away from or brought into you without a rise or fall in the barrel.

Continued on Next Page

Safety (Continued)

Push pull continued

b.) With the weapon pointed in a safe direction and level to the deck, **Pull** the weapon towards your body and look through the magazine well to ensure the magazine is removed and the weapon is clear.

c.) Once you have determined it is clear "CHECK IT AGAIN" to be sure that you were right the first time.

NOTE: This should be done each time you pick up a weapon and each time you bench a weapon to ensure that it is clear regardless of perceived condition.

Continued on Next Page

M16A2 General Description

M16A2 General Description

The **M16A2 rifle** is a product of improvement of the M16A1 rifle. It remains a lightweight, air cold; gas operated magazine fed, shoulder fired weapon with the following improvements:

The barrel is surrounded by two interchangeable aluminum lined fiberglass hand guards, which are notched to permit air to circulate around the barrel and further serve to protect the gas tube as well as the shooters hand from the heat of the barrel.

The M16A2 is capable of firing all NATO standard 5.56mm ammunition.

Has a heavier, stiffer barrel than the barrel of the M16A1.

A redesigned hand guard, using two identical halves, with a round contour, which is sturdier and provides a better grip when holding the rifle.

A new butt stock and pistol grip made of a tougher injection moldable plastic that provides much greater resistance to breakage.

NOTE: *A True M16A2's selector lever says* ***BURST*** *not* ***auto.*** *If the rifle has auto but fires a three round burst it is an M16A1 lower receiver converted to an M16A2.*

An improved rear sight, which can be easily adjusted for windage and range.

A modified upper receiver design to deflect ejected cartridges, and reduce the possibility of the ejected cartridges hitting the face of a left-handed shooter.

A burst control device, that limits the number of rounds fired in the automatic mode to a **three** round burst. This increases accuracy while reducing ammunition expenditure.

A muzzle compensator designed to reduce position disclosure and improve controllability and accuracy in both burst and rapid semi-automatic fire. (Prevent muzzle climb)

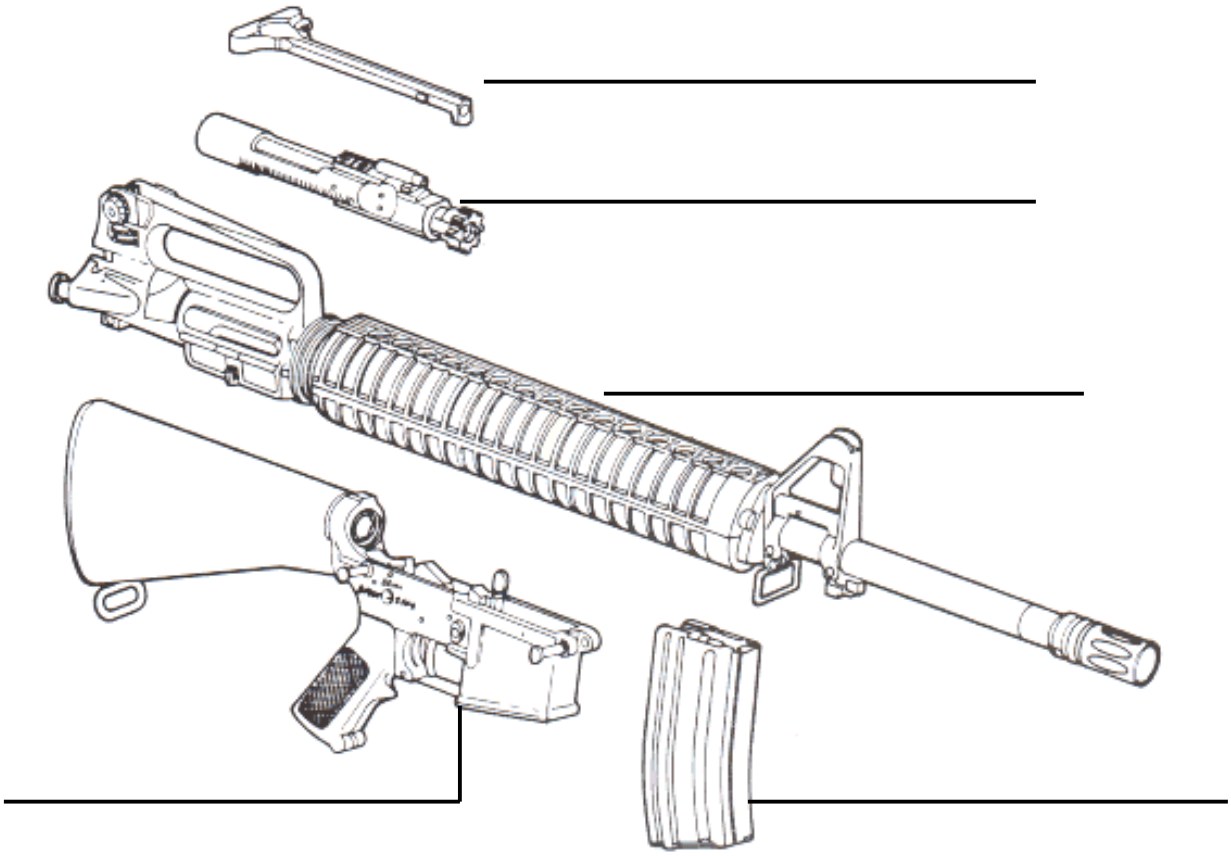
Continued on Next Page

Nomenclature

Components

The M-16 is broken down into five major components

1. The upper receiver
2. The lower receiver
3. The bolt and carrier assembly
4. Charging handle assembly
5. Magazine



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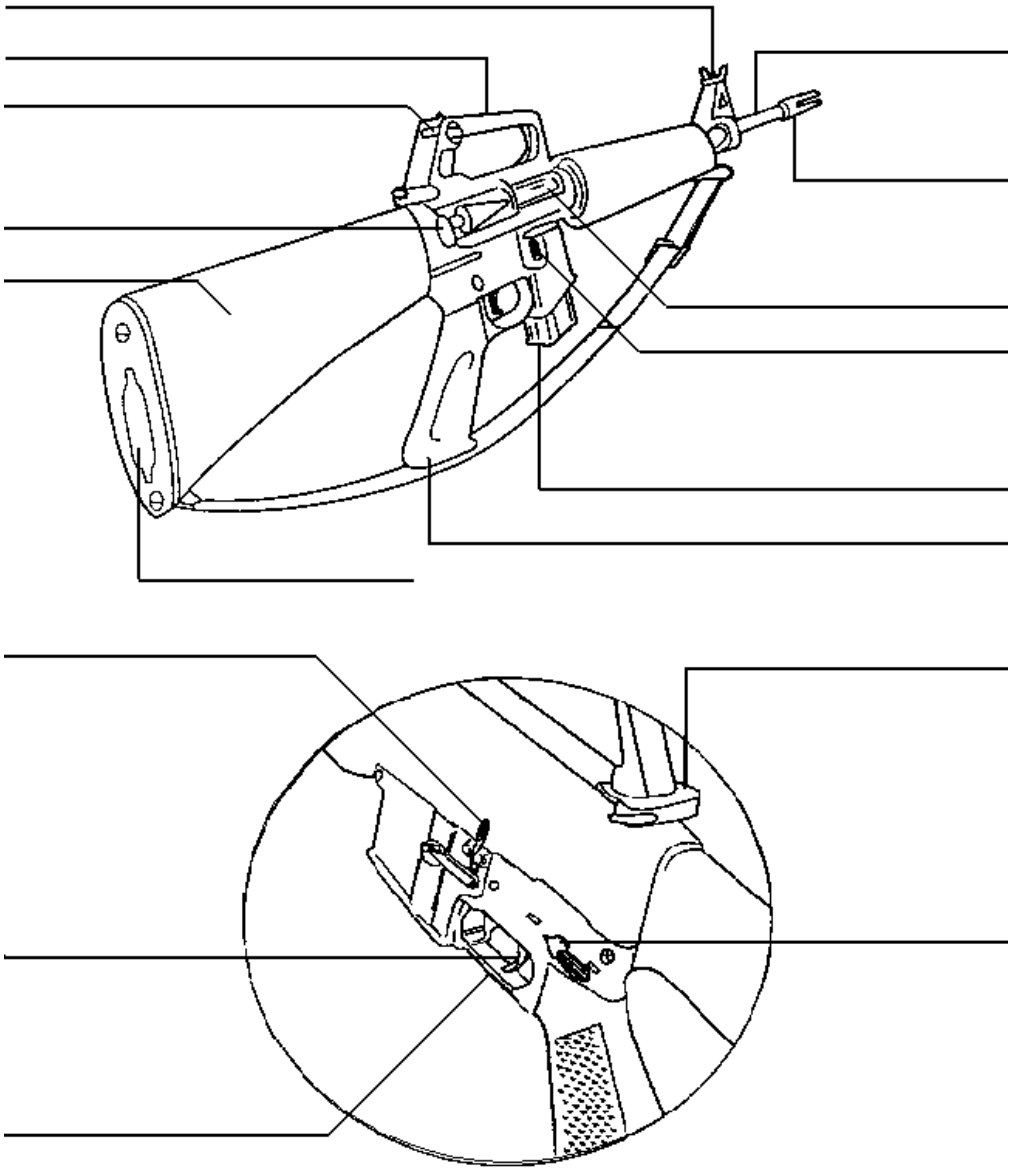
Nomenclature (Continued)

Other Components

1. Front Sight Assembly
2. Carrying Handle
3. Rear Sight Drum
4. Stock
5. Trigger Guard
6. Trigger
7. Bolt Catch/Bolt release (left side)
8. Forward assist (right side)
9. Recoil Pad/ with cleaning compartment.
10. Barrel
11. Compensator
12. Magazine Release Button (right side)
13. Ejection Port (Dust Cover) (right side)
14. Charging Handle
15. Pistol Grip
16. Selector Lever (safe, semi and auto (burst)) (left side)



Component Description

Upper Receiver

The upper receiver contains the rifle barrel assembly which is air-cooled, and contains the compensator and front sight assemblies. The upper receiver also consists of the rear sight, ejection port, ejection port cover, forward assist and housing for the bolt carrier and bolt assembly. It also holds the two-hand guards and sling swivel.

Parts	Function
Front Sight	The front sight is an adjustable post sight for sight corrections in Elevation.
Rear Sight	The rear sight consists rear peep sight with two apertures, normal and low visibility or moving targets. It also has a windage knob for sight corrections from left to right. Last it has an elevation Knob for use in zeroing the weapon and for shots greater than 300 meters.
Forward assist	Forward assist assembly is located on the right rear of the upper receiver and permits the closing of the bolt when it is not done by the force of the action spring.

Bolt and Carrier Assembly

Carries bolt to chamber and fires the weapon. Contains the firing pin, extractor, bolt, ejector, and cam pin.

Charging handle assembly

Provides initial charging of the weapon.

Continued on Next Page

Component Description (Continued)

Lower Receiver

The lower receiver provides firing control for the weapon and provides storage for basic cleaning materials. It contains the trigger and trigger guard assembly. The sear and hammer assembly. Selector Lever, Magazine Release Button, rifle grip (pistol grip), Bolt Catch/Bolt release and stock assembly.

Parts	Function
Trigger Guard	Easily adaptable to winter operations. A spring-loaded retaining pin is depressed to allow ready access to the trigger when wearing arctic or heavy gloves.
Magazine Release Button	Found on the right side of the weapon Locks the magazine in to the magazine well and is also used to release the magazine.
Bolt Catch/Bolt release	Found on the left side of the weapon. The bolt catch is a two-part button. The bottom of the button is used to lock the bolt to the rear. The top of the button is used to release the bolt after it has been locked in the rearward position.
Selector Lever	*Three positions* 1. **SAFE.** A non-positive safety. Only prevents the trigger from being pulled. 2. **SEMI.** Allows one round to be fires for each squeeze of the trigger. Trigger must be released between each shot. 3. **Burst.** In the **M16A2** the weapon will give a **3 round burst** and stop. The shooter must release the trigger and pull it again to resume firing.
Shoulder Gun Stock Assembly	Houses the action spring, buffer assembly, and extension assembly. Also contains a compartment for cleaning materials.

Magazine

20 to 30 round capacity

Continued on Next Page

Function Check For M16A2

M16A2 Functional Check

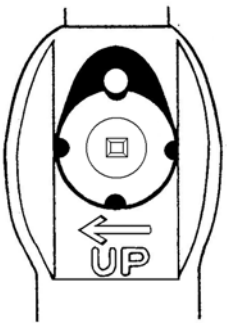
NOTE: *Hammer must be cocked before placing the selector lever to SAFE.*

1. Utilize the push pull to ensure the weapon is clear
2. Pull the charging handle to the rear and release. Place the selector lever in the **safe** position.
3. Squeeze trigger; hammer **should not** fall.
4. Place the selector lever to the **semi** position.
5. Squeeze trigger and hold it to the rear; hammer **should** fall.
6. Pull the charging handle to the rear and release.
7. Release trigger and pull again. Hammer should fall.
8. Place the selector lever to **Auto (BURST).**
9. Pull the charging handle to the rear and release.
10. Squeeze the trigger and hold it to the rear. Hammer should fall.
11. Pull the charging handle to the rear three times and release.
12. Release trigger and pull again. Hammer should fall.

Rifle Sights

M16A2 Sights

The M16A2 has an adjustable front and rear sight used for individual zeroing. The front sight of the M16A2 is an adjustable post sight for sight corrections in Elevation. One click on the front sight of the A2 equals approximately 1 3/8 inch per 100 yards or approximately 3/8 inch per 1000 inches.



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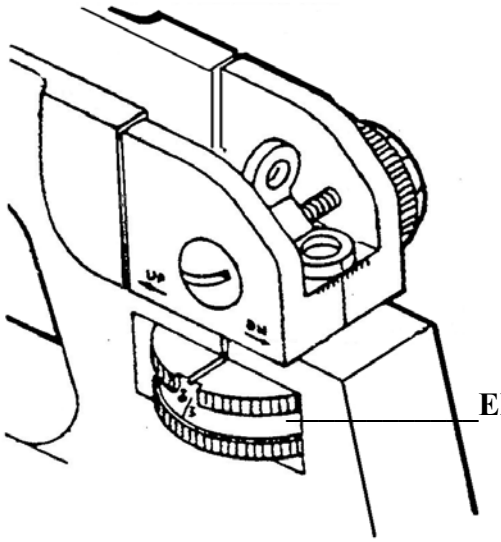
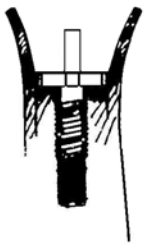
The elevation knob on the A2 is not used for individual zeroing. Although it is set during zeroing it is not utilized for sight correction. The front sight and rear windage knob are used for individual zeroing. The elevation knob is only utilized in field use for targets at ranges of 300 meters or more. .



M16A2 Mechanical Zero

Mechanical Zero is a base setting a shooter should start from when setting their known sight settings to their specific rifle. To set mechanical zero for the M16A2:

1. Rotate the front sight post up or down as necessary until the base of the front sight post is flush with the front sight well.



NOTE: Do not unscrew the front sight all the way up, this will remove the sight from the weapon.

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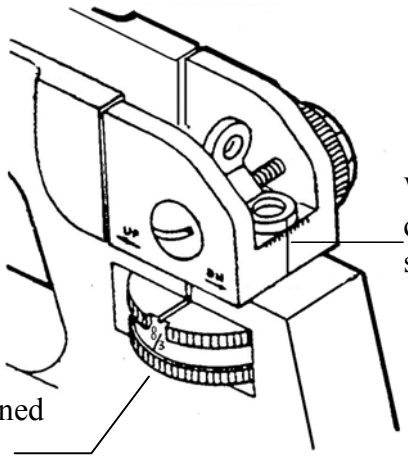
2. Align the windage indicator mark on the 0-2 aperture with the centerline of the windage scale. (The unmarked aperture should be up).

3. Rotate the elevation knob down until the range scale 8/3 mark (300 meters) is aligned with the mark on the left side of the receiver.



From this setting a shooter can begin to set their sight or their Battle Zero to their specific weapon.

Example: BM2 Doe
M16A2 serial number 1234567
13 down
4 right from mechanical zero

Loading

All loading and unloading of small arms should be accomplished on ranges or at designated clearing stations. Only unusual circumstances will require loading and unloading operations to be conducted at places other than the clearing station. If loading or unloading **must** be done outside a clearing area, the weapon MUST be kept pointed in a safe direction away form personnel or vessels.

All personnel who will carry them as part of their regular duties must learn the techniques of loading and unloading the service weapons. Those personnel shall be well drilled and understand the purpose of the training. Each unit shall have dummy cartridges on hand. Training with dummy cartridges shall be used at least **quarterly** and if required more frequently to keep the unit personnel at the highest level of proficiency.

WARNING: Ensure the weapon is pointed in a safe direction at all times and that your finger stays outside the trigger guard.

Ammunition

Prior to loading any weapon you must know what type of ammunition is to be used. There are five types of ammunition you will use in the M16A2: Ball, Dummy, Grenade, Blank, and Tracer.

BALL ammunition is a simple lead bullet with a copper jacket. Note that the M16A1 Fires a 55 grain projectile (A071). Where as the M16A2 fires a Green tipped 62 grain projectile (A059). **Both of these rounds can be fired through either weapon,** however it should be noted that in the M16A2, the 55 grain (A071) will have a slight loss in accuracy that can be corrected with sight adjustments, where as the 62 grain (A059) projectile fired through the M16A1 will have an erratic performance and a much larger loss in accuracy and should only be used in a combat emergency, and then only at close range.

DUMMY ammunition is used for training: loading and unloading. No primer and ridges down the sides.

GRENADE rounds are used for line throwing guns. These rounds are identify by a red crimped neck with no projectile.

BLANK rounds are used in ceremony and salutes. These rounds are identify by a white or violet crimped neck with no projectile.

TRACER ammunition is used Target identification and triangulation of fire. Not commonly used in the Coast Guard it is identified by a orange tip projectile.

Loading (Continued)

Loading

NOTE: *Do not chamber a round unless the rifle is to be loaded in the line of duty (to fire).*

1.) Always Keep weapon pointed in a safe direction.

2.) If possible put the selector lever is in the **Safe** position. Note that he hammer must be fully cocked to put the selector lever in the safe position.

3.) Pull the charging handle fully to the rear and lock the bolt to the rear. If not already in the **Safe** position, place the selector lever to the **Safe** position.

4.) Utilizing the push pull method ensure the weapon is clear.

5.) Depress the bolt release. The bolt should move to the forward position on an **empty chamber**.

6.) Insert a loaded magazine into the magazine well. Be sure the magazine is fully seated into the weapon by tapping the bottom.

NOTE: Weapon will be loaded to the closed bolt, empty chamber condition.

Standard Method For Carrying The M16A2 Rifle

Method of Carry

1. Bolt forward, in battery
2. No rounds in the chamber.
3. Loaded magazine inserted in to the weapon.
4. Selector lever on Safe.

Unloading

All loading and unloading of small arms should be accomplished on ranges or at designated clearing stations. Only unusual circumstances will require loading and unloading operations to be conducted at places other than the clearing station. If loading or unloading **must** be done outside a clearing area, the weapon MUST be kept pointed in a safe direction away form personnel or vessels.

Unloading	**Ensure the weapon is pointed in a safe direction at all times and that your finger stays outside the trigger guard.**

NOTE: 9 times out of 10 the M16 will be in the empty chamber condition when unloading.

1. Ensure the selector lever is in the **Safe** position.
2. Depress magazine catch and remove magazine.

WARNING: The magazine MUST be removed before the chamber is cleared to prevent the chambering of another round.

3. Pull the charging handle fully to the rear and lock the bolt to the rear.

NOTE: If a round is in the chamber it will be ejected through the ejection port. Do not catch the round. Let it fall. YOUR priority is to Make the Weapon Safe. Once the weapon has been cleared you can recover the ejected round.

4. Utilizing the push pull method ensure the weapon is clear.

Continued on Next Page

Firing The M16

Firing the M16

In those situations where chambering a round is called for the following procedure will be used:

1. Keep the weapon pointed in a safe direction and bring the weapon to your shoulder.

NOTE: In situations that you will be firing the Weapon, the target is the safe direction.

2. Grab the charging handle with your firing hand and pull rapidly to the rear then release. **(Do Not ride or ease the charging handle forward. Let the weapon do its work).** This must be accomplished in one swift movement.

3. Keep your finger outside the trigger guard indexed along the receiver and the weapon on safe until the decision to shoot has been made.

NOTE: *Depending on the situation all these steps may occur almost simultaneously*.

4. Once the decision to shoot has been made, sight in and place the selector lever to SEMI.

Corrective Action

Stoppages

A stoppage is a failure of an automatic or semiautomatic weapon to extract a round, eject a spent case or to load or fire a new round.

There are three basic types of stoppages:

1. A failure or malfunction of weapon.

2. A failure or malfunction of ammunition.

3. A failure or malfunction by the operator (operator error).

Continued on Next Page

Corrective Action (Continued)

Weapon failures or malfunctions	Failures or malfunctions can range from easy to correct to Organizational Maintenance required. Items such as dirty weapons, dirty magazines or unlubricated weapons, can be repaired with proper maintenance. Broken firing pins, broken or cracked locking lugs, and damaged blots or receivers will require organizational maintenance.
Ammunition	Problems with ammunition can be categorized into three categories: **Hang fires, Misfires and Squib rounds**
Hang fire	A hang fire is a delay in the ignition of a propelling charge. The amount of delay is unpredictable, but in most cases will be a fraction of a second. In some cases you may not notice the delay.

WARNING: During a hang fire always KEEP the weapon is pointed in a safe direction.

Misfire	A misfire is a complete failure of a propelling charge or primer to function. If a failure to fire (misfire) has occurred immediate action must be taken.

WARNING: During a Misfire always KEEP the weapon pointed in a safe direction.

Continued on Next Page

Corrective Action (Continued)

Squib Round

A squib round is a round of ammunition with little or no powder charge. This type of round is distinguished by a reduced audible pop or reduced recoil. Shooters WILL NOT take immediate action.

In case of a squib round the weapon **Should Not Be Fired** and range personnel should be notified. The bore of the weapon must be cleared before shooting continues.

Operator Error

Improperly loaded magazines (bullets loaded backwards in a magazine), magazines not properly seated, the selector lever in the safe position and improper handling are caused by:

1. Improper training
2. Lack of training
3. Procedural short cuts
4. Attention to detail
5. Adrenaline

Immediate Action

Immediate action is the prompt action taken by the user to correct a stoppage.

Immediate action should become **instinctive** to the user with out the user attempting to discover the cause.

Immediate action will correct most types of stoppages.

Continued on Next Page

Corrective Action (Continued)

NOTE: In A Shooting Situation (and PRC) Immediate actions with the M16A2 are as follows.

IF	THEN
Weapon in not fully into battery	With the Firing hand TAP the forward assist forcing the bolt into battery.
Failure to eject (Stove Pipe)	Pull charging handle to the rear. Shake or sweep brass out of the rifle. Observe position of next round. If another round has been sufficiently stripped from the magazine, lock bolt to the rear and remove magazine. Clear rounds and reinsert magazine close bolt and continue to fire.
Double feed	Lock bolt to the rear, remove magazine, dump loose rounds, cycle the charging handle/bolt briskly attempting to extract. If it extracts insert magazine, chamber a round and continue to fire.
Hang fire	Keep weapon pointed in a safe direction. (Stay on target a hang fire will go off or become a **misfire**.)
Misfire	Keep weapon pointed in a safe direction and perform **S.P.O.R.T.S.**

WARNING: If an audible "pop" or reduced recoil is experienced during firing, immediately cease-fire, put the weapon on safe, remove the magazine and lock the bolt to the rear. Visually inspect and or insert a cleaning rod into the bore to insure there is not a projectile loaded in the bore. DO NOT APPLY IMMEDIATE ACTION

Corrective Action (Continued)

S.P.O.R.T.S.

With the bolt fully forward and selector lever on SEMI or AUTO and the weapon fails to fire, apply immediate action as follows:

1.) Keep the weapon is pointed in a safe direction.

2.) **Slap** the magazine to ensure that it is fully seated.

3.) **Pull** the charging handle and bolt to the rear.

4.) **Observe**. Look to see if a round comes out of the ejection port. Look into the chamber. See if there are any obstructions in the chamber or magazine.

5.) **Release** the charging handle and observe the weapon go into battery.

6.) **Tap** the forward assist.

7.) **Squeeze** off the next round.

S. P. O. R. T. S.

8.) If the weapon does not fire it must be inspected to determine the cause of the stoppage and appropriate action must be taken.

Trouble Shooting

In situations that a weapon has malfunctioned and is not corrected by immediate action, trouble-shooting procedures should be followed.

Trouble shooting procedures for the M16A1 can be found in:

a. TM 9-1005-249-24&P Technical Manual Organizational, Direct Support, And General Support Maintenance Manual Rifle, 5.56-MM, M16 and Rifle, 5.56-MM, M16A1.

b. TM9-1005-249-10 Operator's Manual M16A1 Rifle

M16 PQS

PQS Chapter 17, Page 17-3, COMDTINST M8000.2C

References
A. COMDTINST M8000.2C
B. TM 9 -1005-249-10
C. FM 23-9

NOTE: PQS must be accomplished at a **semi-annual** interval for all Level II personnel and at an **annual** interval for Level III personnel. This task will be completed at least one (1) time without assistance (written or verbal) at the pre-described intervals.

PQS Checklist

1. Identify the M-16 Rifle's selector lever positions and their affect on the M-16.
   Reference: B. Page 10

2. Describe the identifying characteristics of the various types of ammunition available for the M-16.
   Reference: B. Page 9

3. Demonstrate the following operations:

   a. Putting the selector lever in the **"Safe"** position. (B) Page 10

   b. Putting the selector lever in the **"Semi"** position. (B) Page 10

   c. Putting the selector lever in the **"Auto"** position. (B) Page 10

   d. Inserting / Removing magazine. (C) Page 17 D-E

   e. Charging the rifle (A) Chapter 8 Part VI 3.B (2)

   f. Locking the bolt to the rear (A) Chapter 8 Part VI 3.A (3)

   g. Releasing a bolt that is locked to the rear. (A) Chapter 8 Part VI 3.A (5)

   h. Determining weapon is unloaded. (C) PAGE 18 (E)

4. Demonstrate the procedures for loading and unloading the magazine.
   Reference: C Page 17 A-2 through C-3

Continued on Next Page

5. Demonstrate loading and unloading procedures for the M-16.
   Reference: A Chapter 8 Part VI section 3

6. Demonstrate the standard method for carrying the M-16.
   Reference: A Chapter 8 Part VII, section 1.C

7. Demonstrate the procedure for firing the M-16 from a loaded magazine and empty chamber condition.
   Reference: A Chapter 8 Part VI, section 3.B.2

8. Demonstrate emergency procedures for the M-16.
   Reference: B Page 42